tempt coverage of such a wide range of topics – inevitably specific areas of some topics are sadly neglected. In the end, however, this apparent weakness became a strength as it meant the reader was not faced with a number of similar papers each presenting similar ideas and using similar technologies.

Dean A. Jackson

# *Nonvesicular Transport*

Edited by S.S. Rothman and J.J.L. Ho

*John Wiley & Sons; New York, 1985*

394 pages. £90.60

By the normal, rather mundane standards of scientific texts, the title of this particular work has the merit of being arresting, largely by its opacity. One's sense of curiosity is immediately aroused. The transport of what, one enquires, across which particular nonvesicles? On opening the book, surveying the contents pages and Professor Rothman's introduction, such questions are rapidly dispelled, not by the provision of answers but, as so often in science, by the discovery that they are the wrong questions. In fact the book is concerned with an alternative view of secretory processes which does not, of necessity, involve intracellular packaging followed by exocytosis of packaged material.

The contents are made up of a series of articles, by different authors, concerning the various stages of the secretory process. The first block of articles deals with the structure of membranes and their permeability to proteins, followed by a critical consideration of the signal hypothesis. The latter is central to the philosophy of the book and seeks to show that synthesis of exported proteins is not carried out exclusively on membrane-bound ribosomes, that there are free, cytosolic pools of processed product and that these can move into (and out of) pre-formed storage vesicles. The second series of articles deals with the role, or lack of it, of exocytosis in biogenic amine and acetylcholine secretion, and the third section considers the evidence for non-exocytotic routes of protein secretion in the endo- and exocrine pancreas.

It is rather doubtful that the contents of the book will persuade a generally sceptical world that there is more to secretion than the exocytosis of packaged products. Some of the articles are excellent and provide considerable food for thought. The experimental evidence produced in others, on the other hand, does rather little to further the general cause. Each individual article is preceded by a short introduction from Professor Rothman, telling the reader which particular message he or she is about to receive from the following pages. I must confess I found this exceedingly irritating; firstly because I regard it as the job of the author of the article to put his own message across clearly; secondly because Professor Rothman writes in a style which the kind might describe as erudite and the unkind would describe as pretentious. The result is that these introductory homilies are more difficult to read and understand than the articles themselves.

There is, or should be, a place for a book of this sort which puts forward a view which is not currently fashionable. Certainly there is enough adverse experimental evidence described to be worthy of attention by the proponents of exocytotic secretion. However, the astonishingly high price of the work will probably form an insuperable energy barrier to its effectiveness. Not many people will wish to pay as much as this to receive a message that they do not particularly wish to hear and I suspect that, in these days of tight funding, not many libraries will buy it either.

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